IN THE ABSTRACT

Please substitute the attached rewritten Abstract of the Disclosure for the abstract as originally filed.

REMARKS

The above amendments are being made to place the application in better condition for examination.

Entry of the amendment is respectfully solicited.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Page 1, Between the title and paragraph [0001]:

[0000.2] CROSS-REFERENCE TO RELATED APPLICATIONS

[0000.4] This application is a 35 U.S.C. 371 application of PCT/DE 01/02277, filed on June 20, 2001.

[0000.6] BACKGROUND OF THE INVENTION

Paragraph [0001] has been amended as follows:

[0001] ~~Prior Art~~ Field Of The Invention

Paragraph [0002] has been amended as follows:

[0002] The invention is ~~based on a~~ directed to an improved method for producing bores in workpieces of electrically conductive material, in particular injection ports in injection nozzles of fuel injection systems for motor vehicles~~, as generically defined by the preamble to claim 1~~.

Between paragraphs [0002] and [0003]:

[0002.5] Description Of The Prior Art

Paragraph [0003] has been amended as follows:

[0003] In one known method of the type defined above, for producing bores by means of spark erosion, a thin electrode, also called an erosion wire, is placed against the workpiece. In spark erosion, by chronologically separate electrical discharges between the erosion wire and the workpiece, material of the workpiece is increasingly removed, in the course of which the erosion wire also wears down. The discharges are effected

via energy storing means with voltages of more than 20 V; the voltage, current, discharge frequency and pulse length are adapted to the drilling task (Dubbel, Taschenbuch für den Maschinenbau [Mechanical Engineering Handbook], volume 2, 13th Edition, page 669). For drilling conical bores, the electrode is tapered conically toward its free end, so that a conicity of the bore hole with a diameter that decreases in the direction of the machining feed is attainable.

Paragraph [0004] has been amended as follows:

[0004] ~~Advantages of the Invention~~ SUMMARY OF THE INVENTION

Page 2, Deleted paragraph [0006]:

[0006] ~~By the provisions recited in the other claims, advantageous refinements and improvements to the method defined by claim 1 are possible.~~

Page 3, Deleted paragraph [0008]:

[0008] ~~An advantageous apparatus for performing the method of the invention is defined by claim 4. Advantageous embodiments of the apparatus are recited in claims 5-7.~~

Paragraph [0009] has been amended as follows:

[0009] ~~Drawing~~ BRIEF DESCRIPTION OF THE DRAWINGS

Paragraph [0010] has been amended as follows:

[0010] The invention is described below in further detail in terms of an exemplary embodiment shown in the ~~drawing~~ drawings. Shown are:

Page 4, Paragraph [0012] has been amended as follows:

[0012] Figs. 2 and 3, each, an erosion wire of the apparatus of Fig. 1, in two different vibration modes; and

Paragraph [0014] has been amended as follows:

[0014] ~~Description of the Exemplary Embodiment~~ DESCRIPTION OF THE PREFERRED EMBODIMENTS

Page 7, Paragraph [0021] has been amended as follows:

[0021] In the exemplary embodiment of Fig. 1, the actuators 14, 15 are embodied as so-called piezoelectric stacks 17, 18. In each piezoelectric stack 17 and 18, a plurality of piezoelectric elements 23 ~~is~~ are disposed, contacting one another, in the direction of their change in length. On the counterpart face of the fastening unit 13, which is remote from the engagement face of the respective piezoelectric stack 17, 18, one end of a compression spring 19 and 20, respectively, is braced, whose other end rests on a stationary abutment 21 and 22, respectively. When an alternating voltage of amplitude U is applied to the piezoelectric stack 17 or 18, the piezoelectric stack 17 or 18 undergoes a change in length in the direction of the x or y axis, so that the fastening

unit 13 is excited to execute an oscillating motion, on the one hand in the direction of the x axis and on the other in the direction of the y axis. The vibration stroke is dependent on the amplitude U of the alternating voltage, and the vibration frequency is dependent on the frequency f of the alternating voltage. The compression springs 19, 20 assure a reliable, non-positive contact of the piezoelectric stacks 17, 18 with the fastening unit 13.

Page 8, After paragraph [0022]:

[0023] The foregoing relates to preferred exemplary embodiments of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.

Page 11, Abstract

~~Abstract~~ **ABSTRACT OF THE DISCLOSURE**

A method for producing bores in workpieces of electrically conductive material, in particular injection ports ~~(11)~~ in injection nozzles ~~(10)~~ is disclosed, in which method, by means of an erosion wire ~~(12)~~ forming an electrode, material in the workpiece forming the counterelectrode is removed in a targeted way by spark erosion. To produce bores of different cross-sectional shapes and/or a varying cross-sectional area over the length of the hole, the erosion wire ~~(12)~~ is actively excited to a defined vibration, and the form of vibration is established by targeted variation of the vibration excitation in accordance with the desired bore hole shape. A preferred apparatus for performing the method has a fastening unit ~~(13)~~, which receives the end ~~(122)~~ of the erosion wire ~~(12)~~ and which is driven by two actuators ~~(14, 15)~~ to execute a separate oscillating displacement along an x axis and a y axis ~~(Fig. 1)~~.